

Claims

1. Snap locking angle adjustable device, comprising: a first pivot member and a second pivot member, rotatable relative to each other around a pivot axis; a first contacting element having a first alignment structure that rotates rigidly with the first pivot member around the pivot axis; a second contacting element having complementary first alignment structure that rotates rigidly with the second pivot member around the pivot axis; a spring (5) that, in conjunction with a spring expansion-restricting device (6), presses the first alignment structure axially against the complementary first alignment structure; and that: the first alignment structure and the complementary first alignment structure align at certain angles between the pivot members, at which the spring force is reduced compared to at angles where they do not align, characterized in that the spring expansion-restricting device comprises two position-limiting members, in between which the spring and the contacting elements are placed, rigidly held together by connecting means; and that each one of the contacting elements with its alignment structure is a single unit formed by injection moulding or by some other moulding technique.
2. Snap locking angle adjustable device according to claim 1, characterized in that, the first pivot member and the first contacting element are separate components joined to each other by pins and holes (12, 12') or any other means that rigidly connects these components with respect to rotations around the pivot axis.
3. Snap locking angle adjustable device according to any one of the previous claims, characterized in that, the second pivot member and the second contacting element are separate components joined to each other by ridges and grooves (22, 22') or any other means that rigidly connects these components with respect to rotations around the pivot axis.
4. Snap locking angle adjustable device according to claim 3, characterized in that, it comprises: a third contacting element having a third alignment structure that rotates rigidly

with the first pivot member around the pivot axis; and a fourth contacting element having complementary third alignment structure that rotates rigidly with the second pivot member around the pivot axis; and that: the spring (5), in conjunction with the spring expansion-restricting device (6), presses the third alignment structure axially against the complementary third alignment structure; and that: the third alignment structure and the complementary third alignment structure align at certain angles between the pivot members, at which the spring force is reduced compared to at angles where they do not align.

5. Snap locking angle adjustable device according to any one of the previous claims, characterized in that, the distance between position-limiting members (62) and (63) can be changed by an axial screw coupling (64, 64') of the connecting means (61), allowing for adjustment of the spring force.

6. Snap locking angle adjustable device according to any one of the previous claims, characterized in that, the combination of a sleeve (14) on one contacting element and a sleeve groove (24) on a facing contacting element, aligns and secures the contacting elements and the pivot members on the pivot axis.